

Notes and Synonymy in *Largus* Hahn with a Key to United States Species

(Hemiptera: Largidae)

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In 1970 I described a new species of *Largus* Hahn, and provided a key to southwestern species of the genus. This material was based on data available to me prior to 1968 and ignored several taxa described by Bliven (1956 and 1959) and a subspecies named by Van Duzee in 1923. Since that time I have acquired additional information relating to the genus and have described a new species from Florida (Halstead, 1972). This paper will present comments on distribution and synonymy for species encountered in the United States, as well as a key for their differentiation.

LARGUS HAHN OF THE UNITED STATES

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|----|---|---------------------------------|---|
| 1. | Rectangular hemelytral patch, pronotal posterior and abdominal venter white | <i>sellatus</i> (Guerin) | |
| | Rectangular white hemelytral patch absent, pronotal posterior and abdominal venter not white | | 2 |
| 2. | Membrane white or very light tan, veins concolorous or light tan | | 3 |
| | Membrane tan to black, veins brown to black | | 5 |
| 3. | Two very distinct transverse black maculations at juncture of claval suture and membrane | <i>maculatus</i> Schmidt | |
| | Without two distinct black maculations at juncture of claval suture and membrane | | 4 |
| 4. | Ground color distinctly yellow; abdominal venter at least basally and usually entirely yellow | <i>pallidus</i> Halstead | |
| | Ground color red; venter black, very rarely with slight red suffusion of basal abdominal segments | <i>davisi</i> Barber | |
| 5. | Thoracic sterna around base of coxae red to orange | | 6 |
| | Thoracic sterna around base of coxae black | | 7 |
| 6. | Coxae often red; trochanters and femora black | <i>convivus</i> Stal | |
| | Coxae, trochanters and proximal ends of femora all red to yellow-orange | <i>cinctus</i> Herrich-Schaffer | |
| 7. | Trochanters and proximal ends of femora orange to orange-red | | |
| | | <i>succinctus</i> Linnaeus | |
| | Trochanters and femora all black | <i>semipunctatus</i> Halstead | |

A number of species of *Largus* show great variation in expression of a given color trait. The same portion of the anatomy of individuals of the

same species may vary from pale yellow or tan to deep red. It is therefore of questionable value to base taxa on color shade. It is a completely different matter to base taxa on patterns of coloration. The above key is based entirely on color expression, and is simply a guide to identification of specimens. The various species represented differ with respect to a number of morphological characters as well.

Largus cinctus.—W. North America from British Columbia to southern Mex., e. to central Tex. *Largus cinctus californicus* (Van Duzee), 1923 is a synonym based on characters of pubescence and coloration which break down when compared with a large series of specimens. Unpublished thesis data (Halstead, 1967) involving comparative analysis of specimens from seven populations of *Largus cinctus* ranging from Washington to southern Mexico show that while a tendency for specimens from the south to be paler and less pubescent does exist, some specimens from any population will match Van Duzee's description. *L. cinctus californicus* was designated as a geographic variation from northern areas in California, as different from specimens originating in Arizona and Mexico. Bliven (1959) proposed *Largus semipletus* from northern California citing difference in relative antennal segment length as the major separatory character. Comparison of Bliven's antennal segment measurements with measurements of specimens from four California counties (Halstead, 1967) shows that data cited by Bliven fall well within variation shown by *L. cinctus* populations in California. The other major character cited by Bliven was pubescence. The description of this characteristic is not sufficient to separate the new taxon from *L. cinctus*. Careful analysis of the long description given by Bliven has failed to show me any other criteria than the two mentioned above which could possibly justify proposal of a new species. It is my opinion that *L. semipletus* is a synonym of *L. cinctus*. *Largus sculptilis* Bliven, 1959 was separated from other *Largus* species by reason of differing coloration, pubescence, punctation and antennal segment length. The range of variation with respect to all of these characters shown by *L. cinctus* populations is sufficient to encompass Bliven's new species. Comparative analysis shows that antennal segment length values given by Bliven fall within the range for *L. cinctus* populations (Halstead, 1967). *Largus sculptilis* Bliven is synonymous with *L. cinctus*. I have examined several thousand specimens of *Largus* from California localities; to date all have been *L. cinctus*. This includes material determined by Van Duzee and others as *L. convivus*. I have examined Torre-Bueno's "paraplesiotypes" (specimens bearing that label) through the courtesy of Dr. G. W. Byers of the Snow Entomological Museum of the University of Kansas

and find specimens of both *L. cinctus* and *L. convivus* bearing *L. cinctus* labels.

Largus convivus.—Mountainous regions of Ariz. w. to Tex., s. to central Mex. *Wupatkus semo* Bliven, 1956 was proposed as a new Largid genus and species from northern Arizona. Bliven's description of *Wupatkus* shows absolutely no variation from Hahn's original description of *Largus* in 1831. *Wupatkus* must therefore fall to *Largus*. Furthermore, Bliven's description of *W. semo* is very clearly a description of *L. convivus*. *Wupatkus semo* Bliven must therefore fall in synonymy to *L. convivus*.

Largus succinctus.—Fla. n. to N.Y., w. to Tex. The common Eastern species corresponding to *L. cinctus* in the West.

Largus semipunctatus.—S. Ariz., s.e. N.M., with one doubtful California record. A rare mountain species.

Largus maculatus.—Brownsville, Tex. and perhaps s. Ariz. s. to Colombia. This is the *Largus bipustulatus* of my 1970 key. Examination of Stal's type through the courtesy of Dr. Per Inge Persson of the Stockholm Museum proved to me that this apparently rare Mexican species differed from the specimens from the Brownsville area.

Largus sellatus.—Extreme s. Fla. Differs from all other *Largus* of the United States by the distinct white markings, as noted in the key. A Caribbean species.

Largus davisi.—Fla. only, not uncommon.

Largus pallidus.—Key Largo, Fla. and adjacent areas. Generally larger and more robust than *L. davisi*.

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